

Run 9 Dielectron Continuum Analysis Update

HBD Group Meeting

8-9-11

Switch to CabanaBoy

- Last time showed results from PairObj showed differences in the like sign FG & BG.
- The source of this bug has not been found, but rather I decided to switch my analysis to CabanaBoy to provide better comparison to other ongoing analysis.

Single electron cuts

```
vertexcut    = 20.0; // 25 cm
ptlowcut    = 0.150; // 200 MeV
pthighcut   = 20.0; // 20 Gev
ecorecut     = 0.150; // 150 MeV
emcSigmacut  = 5.0; // sigma
dispmax      = 10.0; // ring displacement < dispmax
n0min       = 2; // >= n0min tubes
eoverpmin    = 0.50; // E/p > 0.5 Let's stick with 0.5 for now.
chi2overnpe0max = 15.0; // chi2/npe0 < 15
quality[0]    = 63; // quality
quality[1]    = 51;
quality[2]    = 31;
dchzedmax    = 1.0e3; // DCH zed (not used by default)
eprobmin     = 0.00; // EMC shower probability (not used by default)
```

Pair cuts

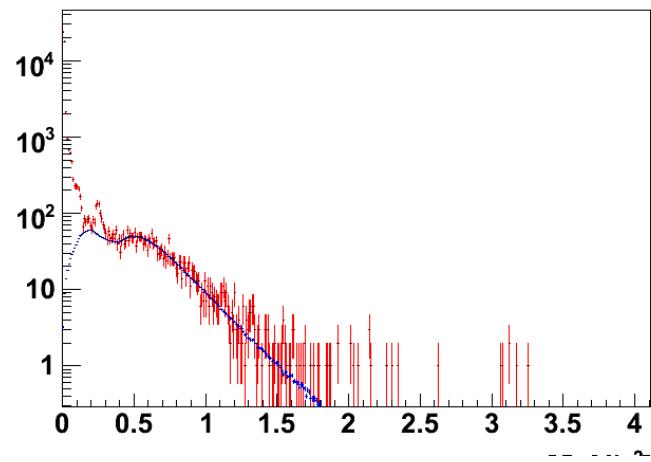
```
// RICH ghost cut  
dcenter_phi_offset = 0.00;  
dcenter_phi_sigma = 0.01;  
dcenter_z_offset = 0.0;  
dcenter_z_sigma = 3.6;  
dcenter_cut = 10.0;
```

```
// PC1 ghost cut  
pc1_dphi_cut = 0.02;  
pc1_dz_cut = 0.5;
```

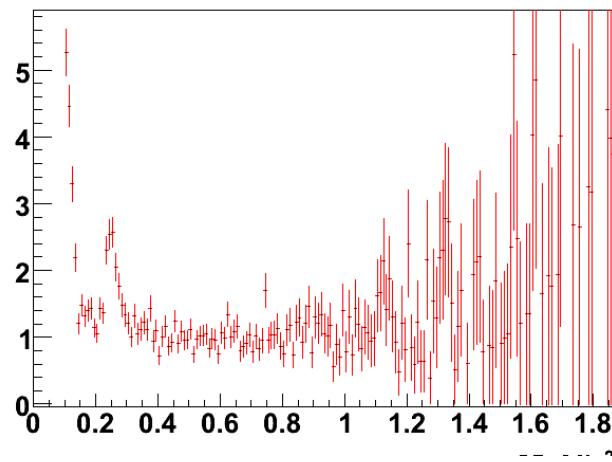
```
// EMC ghost cut  
emcD_cut = 1.5;
```

Un-like sign spectra

Mass of the pair

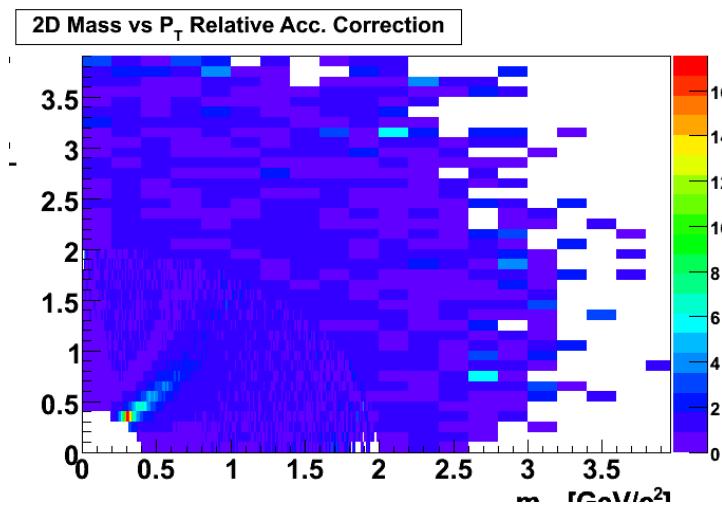
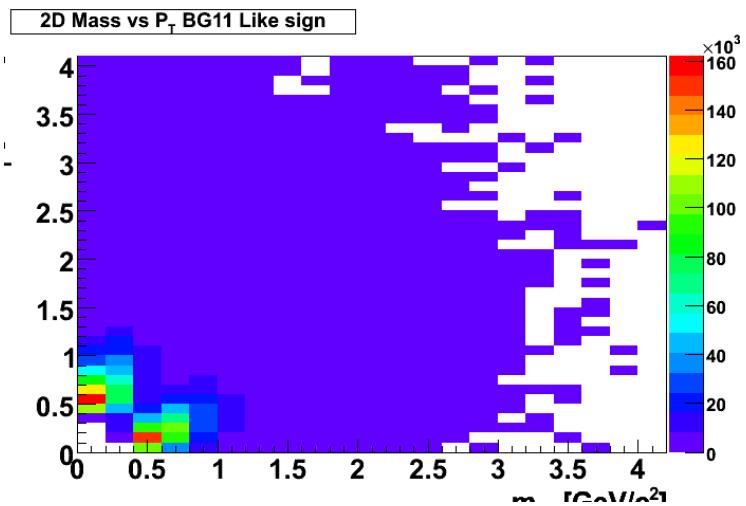
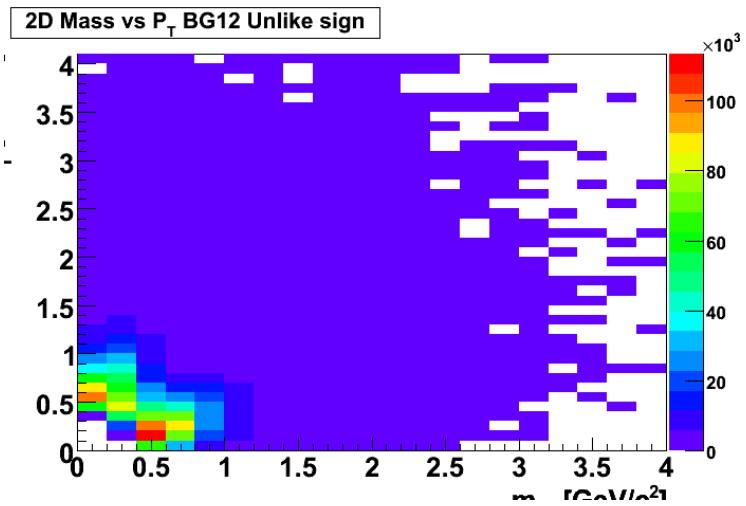


Ratio of FG12 to BG12

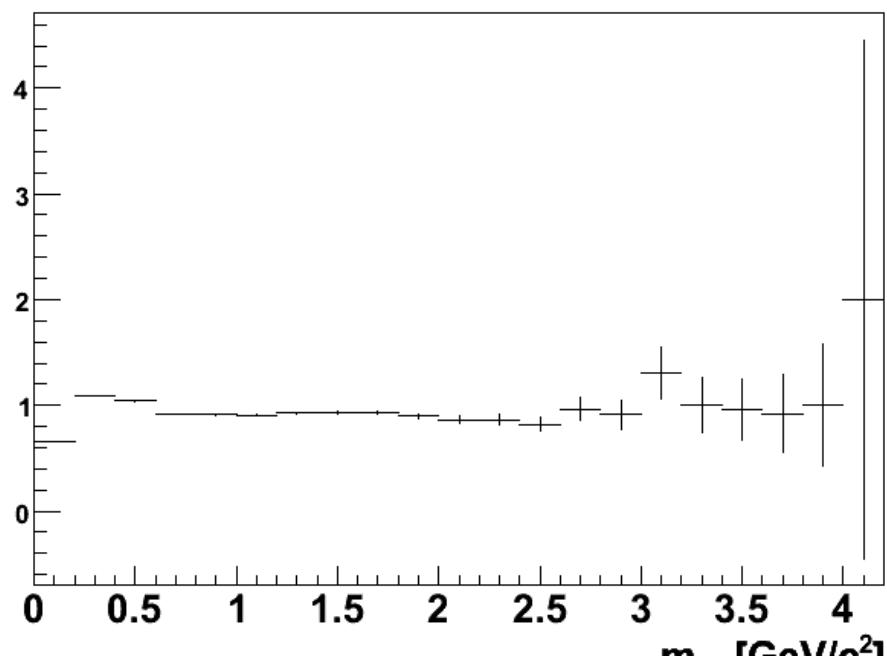


Mass spectrum with no HBD cuts. Still observe large number of conversions and Dalitz in Low mass region. Much flatter in high mass region though.

Relative Acceptance Correction



Relative Acceptance Correction



$$\alpha = \frac{BG12}{(BG11 + BG22)}$$